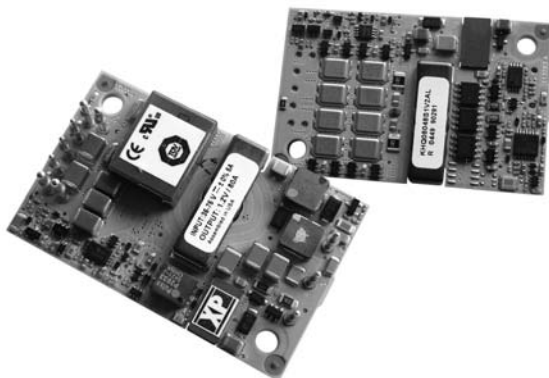


KHQ080 Series



- 80 A Output with High Power Density
- High Efficiency - Up to 91%
- Low Voltage Outputs to 1.2 V
- Industry Standard Double-P Pinout
- Low Profile - 0.45" (11.4mm)
- High MTBF
- International Safety Approvals

Specification

Input

Input Voltage Range	• 36-75 VDC
Input Current	• 6.0 A at 36 Vin 3.2 A at 75 Vin max
Input Reflected Ripple	• 35 mA pk-pk typical
Input Reverse Voltage Protection	• 12 A external fuse recommended
Input Transient	• 100 VDC for 100 ms
Undervoltage Lockout Protection	• On = 32 to 35 V Off = 29 to 34 V
Input Filter	• Differential CLC filter

Output

Output Voltage	• 1.2 to 5.0 VDC
Output Voltage Trim	• $\pm 10\%$
Minimum Load	• No minimum load required
Line Regulation	• $\pm 0.1\%$ typical
Load Regulation	• $\pm 0.2\%$ typical
Setpoint Accuracy	• $\pm 2\%$ max
Turn-on Time	• 10 ms
Over/Undershoot	• None
Transient Response	• 100 mV max deviation, recovery to within 1% in 50 μ s for a 25% load change
Ripple & Noise	• 100 mV pk-pk max
Overvoltage Protection	• 120-135% recycle input to reset
Overtemperature Protection	• Shutdown at 125 °C with auto recovery
Overcurrent Protection	• 110-140% with auto recovery
Short Circuit Protection	• 155 A max. hiccup / trip and restart mode
Temperature Coefficient	• 50 mV max from -40 °C to +85 °C
Remote Sense	• Compensates up to $\pm 10\%$ drop
Remote On/Off	• On = Logic low or short Off = Logic high or open. Positive logic available (see note 2)
Maximum Capacitive Load	• 20,000 μ F

General

Efficiency	• 91% for 3.3V out (see table)
Isolation Voltage	• 1500 VDC Input to Output
Isolation Resistance	• 10 M Ω min
Switching Frequency	• 190 kHz ± 20 kHz
Power Density	• 122 W/in ³
MTBF	• 1,000 kHrs min per Bellcore

Environmental

Operating Temperature	• -40 °C to +85 °C ambient
Cooling	• 300 LFM min recommended. See derating curve
Operating Humidity	• 30-95% RH non-condensing
Storage Temperature	• -55 °C to +125 °C
Storage Humidity	• 5-95% RH non-condensing
Operating Altitude	• 3000 m (9843 ft) derates total max output current by 20%
Shock	• 10 G per IEC68-2-29
Vibration	• 5-9 Hz, 5 mm/s per IEC68-2-6

EMC & Safety

Emissions	• EN55022 level A conducted. Meets Bellcore TSYNWT 1089 with external filter
Safety Approvals	• EN60950, UL60950, CSA950 per cUL, CE Mark (LVD)

Models and Ratings

Output Power	Output Voltage	Output Current Maximum	Input Current ⁽⁴⁾	Efficiency	Model Number ⁽²⁾
96.0 W	1.2 V	80 A	2.33 A	86.0%	KHQ08048S1V2
120.0 W	1.5 V	80 A	2.84 A	88.0%	KHQ08048S1V5
144.0 W	1.8 V	80 A	3.37 A	89.0%	KHQ08048S1V8
162.5 W	2.5 V	60 A	3.74 A	90.5%	KHQ08048S2V5
181.0 W	3.3 V	55 A	4.14 A	91.0%	KHQ08048S3V3
175.0 W	5.0 V	35 A	5.15 A	91.0%	KHQ08048S5V0

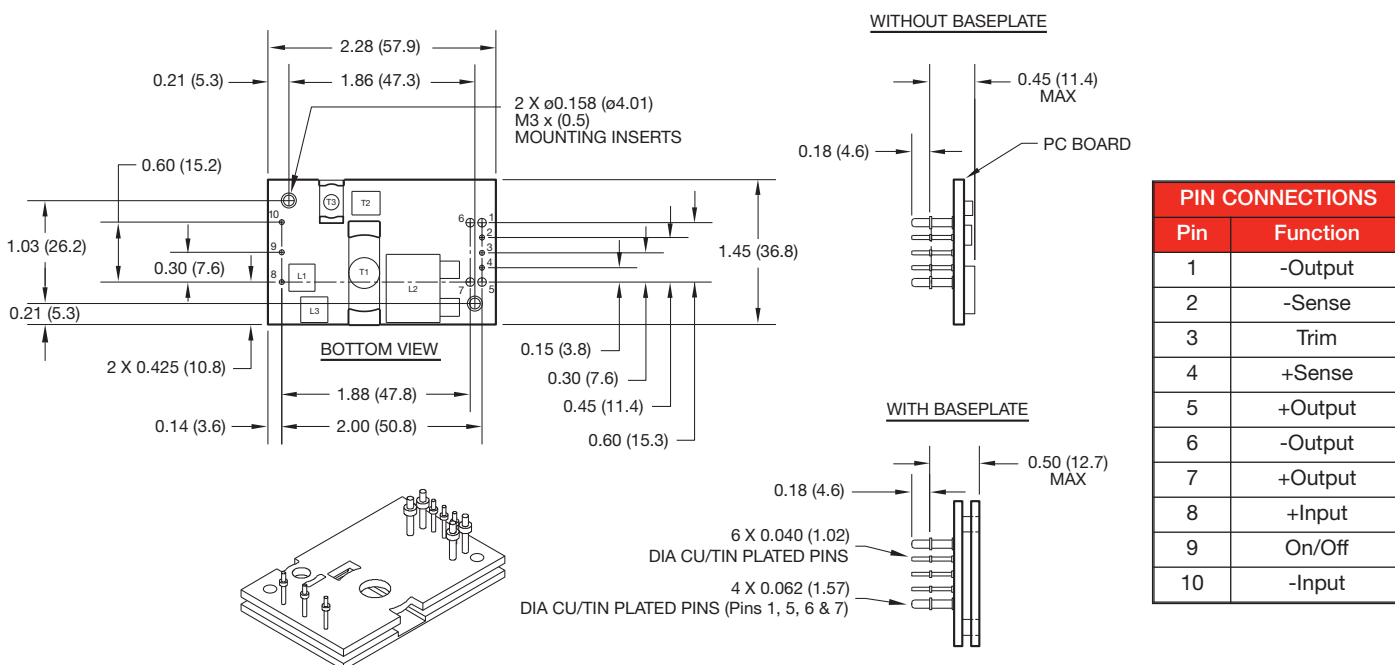
Notes

- Standard product is open frame with negative logic. Baseplate versions are built to order.
- Please add one of the following suffix code to the part number when ordering:
AL = Open Frame/Negative Logic, AH = Open Frame/Positive Logic, BL = Baseplate/Negative Logic, BH = Baseplate/Positive Logic.
- For details of external filtering, contact technical sales.
- Input current for 48 V nominal input.

Mechanical Details

All dimensions are in inches (mm)

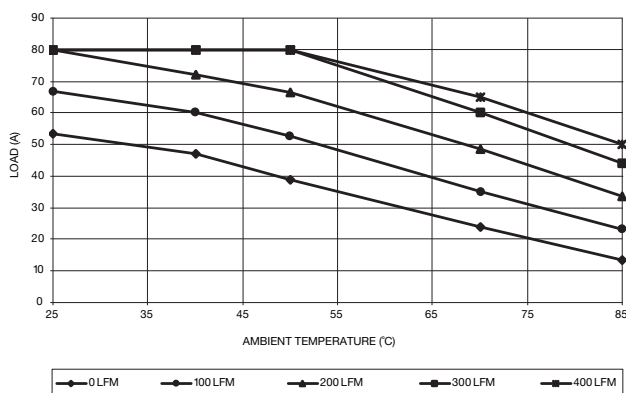
Weight: 0.10 lb (44 g) for open frame



Tolerance: x.xx = ± 0.20 in. (0.5 mm)
x.xxx = ± 0.10 in. (0.254 mm)

Application Notes

Derating Curve for 1.8 V (No baseplate)



Efficiency vs Output Current for 1.8 V

